

METHOD AND DEVICE FOR EMBEDDING AND DETECTING  
WATERMARKING INFORMATION INTO A BLACK AND WHITE BINARY

DOCUMENT IMAGE

5

Abstract of the Disclosure

As a document image on paper is usually black and white binary data, an embedding method for colored and multivalued data using a variation of light and dark could not be applied. When a document printed on paper was captured by a scanner or the like, it was difficult, since it had changed at a pixel level, to stably detect embedded additional watermarking information.

10

15

A text area is detected from a document image, and the features of the detected text area are increased or decreased, or the detected text area is split into two or more subblocks, and said subblocks are divided into two or more groups of which features are increased or decreased respectively so as to embed additional watermarking information so that, when detecting a watermark, additional watermarking information is detected by comparing the integrated values of the features acquired from the respective groups.

20

25